

U.S. Patent Application Serial No. **10/044,986**  
Response dated July 28, 2004  
Reply to OA of **April 6, 2004**

**REMARKS**

Claims 9-12 are pending in this application. Claims 9-12 have been amended. The applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **April 6, 2004**.

Support for the amendments to the claims may be found in the specification as follows. Support for the product-by-process terminology in claims 9 and 10 may be found on page 4, lines 5-13 and lines 15-19. Support for the recitation of the “metal plated film” in claim 10 may be found, for example, on page 11, last line, to page 12, line 12, and Example 2 on page 14. Support for the amendments to claims 11 and 12 reciting “particle size” may be found, for example, on page 10, line 19.

**Regarding priority** (Office Action Summary page)

In the Office Action Summary, in box 12(b), the Examiner indicates that “some” of the certified copies of the priority documents have been received. This appears to be incorrect, as the priority document was already of record in the parent application. Applicants request that boxes 12(a) and 12(a)(2) be marked in the Office Action Summary.

**Regarding references listed in PTO-892.**

References JP05090269 and JP08287724, cited in the PTO-892 in the Office action, were provided by the USPTO as English abstracts only. For the Examiner’s reference, Applicants have obtained and here provide copies of these two Japanese documents and complete English translations

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(machine-generated).

**Claims 9 and 10 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (Office action paragraph no. 3)**

The rejection is overcome by the amendments to the claims.

The Examiner has stated that it is unclear what structure is intended by the term “deformed” in the claims. Applicants have amended claims 9 and 10 to use product-by-process language, reciting that the particles “are deformed by the process of bringing a fine metal powder producing material into flowing contact with the resin molded surface and applying a vibration and/or an agitation to the resin molded product and the fine metal powder producing material.” As noted above, this recitation is supported by the specification on page 4, lines 5-13 and lines 15-19. That is, Applicants here define the claimed product (and the deformation) by the process by which it is made.

Applicants have also amended claim 10 for clarity. Applicants note that the Examiner’s remarks indicate that there may be some confusion between the “metal layer” and the “metal film” recited in claim 10 before the current amendment. Applicants have therefore replaced the term “metal film” with –metal plated film–, and have moved the phrase reciting the “metal plated film” to the end of the claim.

**Claims 11 and 12 are rejected under 35 U.S.C. §112, second paragraph, as being**

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**indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.** (Office action paragraph no. 4)

The rejection is overcome by the amendment of the claims, for clarity.

The Examiner refers to the recitation that “the particles of the fine metal powder have a longer diameter of from 0.001  $\mu\text{m}$  to 5  $\mu\text{m}$ ” in claims 11 and 12. The intended meaning of “longer diameter” was “length in the longest direction” or “major size.”

Applicants note that the specification on page 10, line 19, indicates that “particle size” is another term for the parameter “longer particle diameter.” Applicants have therefore amended the term “longer diameter” to –particle size–.

**Claims 9 and 10 are rejected under 35 U.S.C. §102(b) as being anticipated by JP 05090269.** (Office action paragraph no. 6)

The rejection of claims 9 and 10 over JP ‘269 is respectfully traversed.

The Examiner states that the reference discloses “a resin product containing protruding metal particles and a metal film grown thereon”. Presumably, the Examiner considers resin 6 of JP’269 to correspond to the resin molded surface in claim 9 or 10, the and metal particles 7 to correspond to the recited particles of fine metal powder.

However, the provided English abstract of JP’269 does not indicate that the metal particles have tip ends that are “impaled and forced into the resin molded surface”. Moreover, the abstract of JP’269 does not state how the metal particles 7 get into resin 6.

To clarify the disclosure of the reference, Applicants have therefore obtained and here

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provide a machine English translation of JP '269. As can be seen from the translation, JP '269 discloses a projection electrode formed on an electric element or a substrate (paragraph [0001]). In paragraph [0012], the reference discloses making of the electrode, first describing spin coating of resin 6, which contains Ag-Pd metal particles 7. Therefore, the result is seen in Fig. 2 (the figure in the English abstract), in which the metal particles 7 are dispersed throughout the resin 6.

The structure in JP '269 clearly does not have a "metal layer of a fine metal powder" formed on the resin molded surface, and clearly does not have "tip ends of particles of the fine metal powder impaled and forced into the resin molded surface."

Moreover, the structure in JP '269 clearly would not be achieved by the product-by-process limitation added to claims 9 and 10.

Applicants therefore assert that claims 9 and 10 are not anticipated by JP 05090269.

**Claims 9 and 10 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,918,217.** (Office action paragraph no. 7)

The rejection of claims 9 and 10 over Oliver '217 is respectfully traversed.

Oliver '217 discloses cutting and abrading devices made with special predetermined protrusions armed with metal bonded refractory metal grit.

The Examiner apparently refers to base member 11, having base member surface 12 (as seen in Figs. 1-6) in the reference as the resin molded surface of the claims. However, Applicants note that the base member is "usually mild steel or other base alloy which has a high enough melting temperature beyond that of the brazing metals ..." (column 1, lines 51-57). Therefore, base member

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surface 12 in Oliver '217 cannot be a “**resin** molded surface”.

Moreover, the size of the protrusions in the reference is from “0.01 inch or less” at the smallest to “a maximum of 1/8 inch cross section” (column 7, lines 2-10). These are not “particles of fine metal powder”.

In addition, the protrusions are joined to the base member with a brazing metal (column 1, lines 62-63). Therefore, they are not “impaled” or “forced” into the base member.

Applicants therefore assert that claims 9 and 10 are not anticipated by Oliver U.S. Patent No. 3,918,217.

**Claims 9 and 10 are rejected under 35 U.S.C. §102(b) as being anticipated by CN 1068350A.** (Office action paragraph no. 8)

The rejection of claims 9 and 10 is respectfully traversed.

In the present rejection, the Examiner states that CN '350A discloses “a rubber product having ferrite particles therein, the particles deformed by polishing, then bonded to metal (metal layer).”

In Applicants' understanding, CN '350A relates to bonding technology, and specifically relates to a method for increasing the bonding strength of rubber with a metal through pretreating the rubber surface by copper plating. The reference discloses a process for producing a copper-rubber mixture layer on the surface of rubber which comprises the steps of dissolving well-mixed rubber into a solvent with 5 times the weight of the rubber, and then further incorporating copper powder into the solution to give a mixture, after extensive agitating brush-coating the mixture onto

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a polypropylene film, arranging the film on both sides of a rubber body to be vulcanized and then pressing this with a press to press the copper powder into the surface of the rubber body. Further, according to the examples in the reference, 5 g of styrene-butadiene rubber was mixed with 4 g of copper powder to yield a copper-rubber mixture layer, in which the volume percentage of copper powder is much lower than that of the rubber, as copper has a much higher specific gravity than SBR.

Therefore, as understood by Applicants, the surface layer in the reference is a rubber layer containing copper powder. Thus, CN '350A does not disclose a resin molded product with a metal layer of a fine metal powder formed on the surface. Moreover, the copper powder in the reference would not have tip ends impaled and forced into the resin molded surface.

Additionally, claims 9 and 10, as amended, recite a product-by-process limitation that is completely different from the process in the reference.

Applicants therefore submit that claims 9 and 10 are not anticipated by, and further are non-obvious over, CN '350A.

**Claims 9-12 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,355,313. (Office action paragraph no. 9)**

The rejection of claims 9-12 is respectfully traversed.

U.S. Patent no. 6,355,313, to Yoshimura et al., was filed on February 24, 2000. The Examiner correctly notes that this is nominally a reference under 35 U.S.C. 102(e), and that the inventorship of US '313 overlaps the inventorship of the present application in three of the inventors:

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K. Yoshimura, T. Nishiuchi and F. Kikui.

The Examiner indicates that the rejection could be overcome by a Declaration under 37 CFR 1.132 that the relevant subject matter of the patent was invented by the present inventor and not “by another.” However, this is not actually necessary in this case. This would only be necessary if there were **another** inventor in US ‘313 who was not an inventor in the present application. Since all three of the inventors in US ‘313 are inventors in the present application, any invention in US ‘313 must have been made by one or more of the inventors in the present application. Therefore, the disclosure of US ‘313 is not “by another”, and US ‘313 is **not prior art** under 35 U.S.C. 102(e). (See MPEP 716.10).

**Claims 11 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP 05090269 as applied to claims 9 and 10 above, and further in view of JP 08287724.** (Office action paragraph no. 11)

The rejection of claims 11 and 12 is respectfully traversed.

As noted above, Applicants have obtained and here provide a machine English translation of JP ‘724.

Applicants have argued above in regard to the rejection of base claims 9 and 10 over JP ‘269 (Office action paragraph no. 6) that JP ‘269 does not have a “metal layer of a fine metal powder” formed on the resin molded surface, and does not have “tip ends of particles of the fine metal powder impaled and forced into the resin molded surface.” Moreover, the structure in JP ‘269 clearly would not be achieved by the product-by-process limitation added to claims 9 and 10.

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Applicants also submit that the combination of JP'724 and JP'269 cannot provide a *prima facie* case of obviousness for claims 11 and 12. The Examiner cites JP '724 for the disclosure of a conductive paste having metal particles of up to 1  $\mu\text{m}$  in diameter, a particle size range that overlaps the range of 0.001 to 5  $\mu\text{m}$  in claims 11 and 12. However, the Examiner's proposed combination is of the conductive paste of JP'724 with the protrudent electrode of JP '269.

First of all, Applicants note that, based on the abstracts, there is no suggestion or motivation in either reference for use of the conductive paste of JP '724 on the projection electrode of JP '269. The electrode of JP'269 is on a substrate of an electric element, and almost certainly is intended to be soldered to a wire and not to be contacted with a conductive paste.

Secondly, even if the conductive paste of JP '724 were applied to the electrode of JP '269, the result would not place the metal particles of the conductive paste in the resin of JP '269. This is particularly the case when metal membrane 8 is present in the projection electrode of JP '269.

Applicants submit that no combination of JP '269 and JP '724 can produce the claimed invention, and that claims 11 and 12 are non-obvious over these references, taken separately or in combination.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

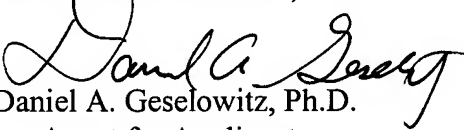


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In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Attachments: JP 5-90269 w/ English machine translation  
JP 8-287724 w/ English machine translation  
Petition for Extension of Time

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